DOCUMENT RESUME

ED 453 415 CE 081 838

TITLE Coaching and Knowledge Transfer. Symposium 8. [AHRD Conference, 2001].
PUB DATE 2001-00-00
NOTE 27p.; In: Academy of Human Resource Development (AHRD) Conference Proceedings (Tulsa, Oklahoma, February 28-March 4, 2001). Volumes 1 and 2; see CE 081 829.
PUB TYPE Collected Works - General (020) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Education; Adult Learning; Distance Education; Education Work Relationship; *Experiential Learning; Influences; *Job Performance; *Labor Force Development; Learning Theories; Literature Reviews; Metaphors; Organizational Climate; Performance Factors; Position Papers; Program Evaluation; Student Attitudes; Student Evaluation; Teacher Student Relationship; Theory Practice Relationship; *Training Methods; *Transfer of Training; Tutoring; Work Environment
IDENTIFIERS Impact Studies; Learning Organizations; Performance Improvement

ABSTRACT

This document contains three papers on coaching and knowledge transfer. "The Role of the Learning Coach in Action Learning" (Judy O'Neil) reviews the literature on action learning and learning coaches, explores the role of learning coaches in action learning, and demonstrates the existence of external and internal influences that shape the interventions coaches use and govern consistency between espoused theory and theory in use. "The Impact of the Dimensions of the Learning Organization on the Transfer of Tacit Knowledge Process and Performance Improvement" (Miguel Hernandez) advances the argument that the process of within-firm transfer of tacit knowledge is influenced by an organizational environment fostered by implementation of the seven dimensions of the learning organization, which are as follows: continuous learning; dialogue and inquiry; team learning; empowerment; embedded system; system connection; and provide leadership. "The Relationship between Distance Coaching and the Transfer of Training" (Libin Wang, Tim L. Wentling) reports on a study that examined the relationship between distance coaching, a post-training strategy, and transfer of training. The study concluded that both actual coaching activities and participants' perceptions about the coaching they received have significant relationships with the transfer of training. All three papers include substantial bibliographies. (MN)

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2001 AHRD Conference

Coaching and Knowledge Transfer

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Tulsa, Oklahoma

February 28 - March 4, 2001

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The Role of the Learning Coach in Action Learning

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Partners for the Learning Organization

Action learning helps organizations use learning to deal with change. The learning coach plays an important part in action learning, yet there is little research about his/her role. The purpose of this study was to determine what practitioners think is distinctive about how they help managers learn from experience in action learning. Conclusions show there are external and internal influences that shape the interventions coaches use, and govern consistency between espoused theory and theory-in-use.

Keywords: Learning Coach, Action Learning, Change

Action learning is one of several strategies that can be used to stimulate the development of learning to help with change in organizations. Learning coaches help participants in action learning programs reflect upon and learn from experience. There is a lack of research about how learning coaches help individuals in organizations learn from experience and what this learning process looks like. The purpose of this study is to gain a better understanding of why and how learning coaches do their work.

Problem Statement

The problem addressed in this study is that there is inadequate documentation about what learning coaches do and why they do it. Little is known about how learning coaches help people in learning from experience and how this involves reflection and critical reflection. The purpose of this study is to determine what practitioners think is distinctive about their role as learning coaches as well as how they help managers learn from experience by using reflection or critical reflection. This study identifies themes from the work and words of practitioners, which are used to advance theory about learning from experience, and ways in which learning coaches in action learning help individuals within organizations deal with and learn from change.

Theoretical Framework

Recently, organizations have begun to experiment with forms of working and organizing that call for a fundamental reassessment of the role of learning as a way to deal with change. One way to engender change through learning is through learning from experience. Kolb (1984) and Boud and Walker (1996) believe that learning from experience is represented by a cyclical process. Considered to be of particular importance is the emphasis on action and reflection. Simple reflective practices can include reflecting back on action for learning; while more critical reflective practices can include questioning the governing values underlying basic assumptions and modes of operation, and refining and reframing business problems (Mumford, 1996).

This study looks at one strategy for helping managers learn from experience called action learning. Action learning is defined as:

> an approach to working with, and developing people, which uses work on a real project or problem as the way to learn. Participants work in small groups to take action to solve their project or problem, and learn how to learn from that action. A learning coach works with the group in order to help them learn how to balance their work, with the learning from that work (O'Neil, 1999, p. 14.)

Theoretical Schools of Action Learning

"One of the problems of describing action learning is that it means different things to different people" (Weinstein, 1995, p. 32). Based on an analysis of what has been written, I have concluded that there are four theoretically based schools of action learning (O'Neil, 1999). Further understanding of these schools has since been expanded upon by others (Hicks, forthcoming; Yorks, O'Neil & Marsick, 1999). These four schools are summarized

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in Table 1 - Theoretical Schools of Action Learning. The four schools are categorized by what appears to be the underlying basis for the way in which practitioners view that learning takes place during action learning. The different schools have much in common, but their different views of learning have an influence on the way in which a learning coach practices his/her role. The most significant difference for this paper is that the Tacit school, while considered by its proponents to be action learning, doesn't use a learning coach (Noel & Charan, 1988).

Table 1. Theoretical Schools of Action Learning

School	Scientific	Experiential	Critical Reflection	Tacit
Theory Basis for School	Alpha, Beta, Gamma; P&Q=L	Learning from experience	Learning through critical reflection	Incidental learning
Main Action Learning Practitioners	Revans (1989)	McGill & Beaty (1995); Mumford (1996)	Marsick (1990); Pedler (1996)	Noel & Charan (1992)
Role for Learning Coach in School	At start of program	Throughout the program	Throughout the program	Not used

The Scientific school is rooted in the work of Reg Revans, considered the 'father of action learning', who described his 'method for achieving managerial objectives' as consisting of Systems Alpha, Beta and Gamma. Given his early background as a physicist, these systems have a basis in the scientific method (Revans, 1982). Learning occurs through asking questions, which leads Revans to a learning formula, L=P+Q (L=learning, P=programmed instruction, Q=questioning insight (1982). Questioning insight has been described as 'discriminating questions' (Pedler, 1991); "P" is, "the expert knowledge, knowledge in books, what we are told to do because that is how it has been done for decades" (Weinstein, 1995, p. 44).

As part of the Experiential school, many proponents of action learning see Kolb's learning cycle as its theoretical base (McGill & Beaty, 1995; Mumford, 1996). Action learning enables learning in each stage of the experiential learning cycle (McGill & Beaty, 1995).

Practitioners in the Critical Reflection school believe that action learning needs to go beyond the simple reflection found in the Experiential school to focus on critical reflection through critical thinking (Brookfield, 1987; Mezirow, 1990); on the basic premises that underlie thinking. In critical reflection, people recognize that their perceptions may be filtered through uncritically accepted views, beliefs, attitudes, and feelings inherited from one's family, school, and society. Such unfiltered perceptions often distort one's understanding of problems and situations.

The main differences between the Tacit school, and those previously discussed, is its focus primarily on action through the project. Little explicit attention is place on the process of learning, which makes it primarily incidental (Marsick & Watkins, 1992).

The Learning Coach

The literature does not provide an explicit definition of a learning coach. Each author describes the learning coach differently based on how he/she understands the learning process (McGill & Beaty, 1995; O'Neil & Marsick, 1994; Revans, 1978). The literature does provide a picture of certain characteristics or traits. These characteristics and traits enable the learning coach to play many roles.

One of those is that of a process consultant (Casey, 1991; McGill & Beaty, 1995; O'Neil, 1997; O'Neil & Marsick, 1994; Weinstein, 1995). Skills are also identified for learning interventions. In the three schools that use learning coaches, the coach primarily works with the group through the use of interventions, i.e., questioning, reflection. The kinds of interventions and the frequency depend upon the kind of learning in which he/she would like the group to engage. The literature, however, primarily consists of prescriptions written from the personal experience of practitioners (Casey, 1991; McGill & Beaty, 1995; Mumford, 1993; Pedler, 1991). While there has been some research on learning outcomes in these programs, (ARL™ Inquiry, 1995; Weinstein, 1995; Yorks, O'Neil, Marsick, Nilson & Kolodny, 1996), there has been no research that has specifically focused on the role of the learning coach.

Most, but not all, authors consider the role of the learning coach as important (Casey, 1991; Marsick, 1990; McGill & Beaty, 1995; Mumford, 1993). Revans (1978) thinks that the learning coach role should be limited to the

start of a program to ensure that managers understand that they have the latent ability to learn from one another. "Although it is theoretically possible, we know of few examples where action learning groups operate without coaches". (Pedler, 1991, p. 291).

Research Questions

The questions that frame the conceptual focus of the research are:

- What do learning coaches do to help individuals learn from experience?
- When does that help result in simple reflection, and when does it result in critical reflection?

The more specific sub-set of questions that help to answer the larger questions is:

- What external influences affect the practice of these learning coaches?
- What skills, knowledge and interventions do these learning coaches think they use in their work?
- What internal influences affect the practice of these learning coaches?
- What is the self-perception of these learning coaches—their espoused theory—of what they do?
- How does the self-perception of some of these learning coaches (those observed in a program) compare with their actual practice—their theory-in-use?

Research Design

Sample

This study relies on elite interviews. I had a personal relationship with practicing learning coaches in the United States, England, and Sweden. I knew, and had worked with, some of my subjects, who therefore agreed to participate in my study and provide access to a number of additional learning coaches. My subjects were a convenience sample based on these contacts.

My population is composed of 23 practicing learning coaches—14 males and 9 females: 6 from the US, 13 from the UK and 4 from Sweden. Four of these coaches participated just in the first step of the study. Twenty of the 23 were over the age of 40. Several of the learning coaches who participated in the research have been learning coaches for a number of years, are well published, and are considered by other practitioners to be well-known authorities. All of the learning coaches who participated in the study had backgrounds that enabled them to understand and practice action learning, and all had participated in one or more action learning programs.

Data Collection

The first step in implementing my research design was modified use of the "Self-Q" interview (Bougan, 1983), which involves asking potential interviewees what they think the researcher should ask to understand their expertise. I used the first two interviews in Bougan's process frame the semi-structured interview schedule. This interview was used with 5 coaches, 4 of whom were not part of the semi-structured interviews or observations.

The next step was to conduct in-depth, semi-structured interviews. The interview schedule was constructed from the literature and output of the "Self-Q" interviews. The interviews were conducted with 12 learning coaches who were not observed in an action learning program and with 7 learning coaches who were.

In the course of this research, I was not able to observe all of the subjects. The sites I observed were a multi-national food organization in the United States using an action learning program to help transform itself into a global organization, and a university in England using action learning as a basis for its masters and doctoral programs geared to people working within varied organizational settings. I observed 4 of my subject learning coaches at the US site—1 US male, 1 US female, and 2 Swedish males—and 3 of my subject learning coaches at the England site—3 UK males. Observations took place after the semi-structured interviews.

Steps for Analyzing and Synthesizing Data

I used the constant comparative method to analyze and synthesize data (Merriam, 1998). I used NUD*IST (Non-numerical Unstructured Data Indexing Searching and Theorizing) a data analysis software program for my analysis. Once in the NUD*IST database, interviews were reviewed while I listened to the recording in order to 're-

live' each interview, while checking for accuracy and completeness of the transcription. During this process, I also began an "open coding" scheme of the data (Strauss & Corbin, 1990). Using the literature and "in vivo" codes, I developed an initial coding scheme. These initial codes were revised, expanded, clarified and synthesized throughout the analysis process. Data were synthesized and reported using the study's research questions. Pseudonyms were used in reporting the findings.

Validity, Reliability and Limitations

Because it is difficult for external readers to judge whether or not the researcher's interpretations are correct, Brookfield (1990) suggests rules that I followed in my study to contribute to its credibility, transferability, dependability and confirmability. These include—justify and document one's activities and conclusions; use sufficient quotations to allow readers to judge the validity of the findings; seek to acknowledge the limitations of interpretive research and their inherent disadvantages; use triangulation; acknowledge the importance of his/her presence in the research encounter.

My research had an inherent subjectivity because I was the data collector, data interpreter and a learning coach practitioner. Despite precautions, a certain amount of bias was unavoidable. Both the "Self-Q" and semi-structured interviews were self-report methods and were only balanced in part by observations. Finally, I may have brought some additional bias to the research since I knew many of the coaches so well.

Findings

The findings from this study fall into 3 general areas. First, external influences on the roles of the learning coach; next, the primary role of the coach, that is, interventions with his/her group; and last, the internal influences on the coach. The combination of the interviews and observations also resulted in some findings regarding coaches' espoused theories versus their theories-in-use (Argyris & Schon, 1978). These findings result in conclusions about the basics of a learning coach's practice.

External Influences

The external influences found in this study include the coaches' personal background, for example, history, skill and knowledge, and people who had an impact on them. These influences also reflect the type of action learning programs in which the coaches work.

These findings demonstrate that people who come from very varied backgrounds can perform the role of the learning coach. While there are a number of skills and knowledge people could bring to the role, one of the most important is that of the ability to help groups work with their process. "Learning coach and process consultant are not the same, but I think clearly there are a number of skills germane to both." The findings showed a particular emphasis on not viewing oneself as an expert and the maturity to put aside one's needs and focus on the needs of the group. There are additional skills and attributes that are also necessary and important for a learning coach to have or develop that go beyond helping groups with their process, to helping groups focus on their learning.

The design of the action learning program in which coaches work can also have a significant influence on how they work with their group. The interaction that a coach would have with a group would be different depending on whether the design called for participants to have individual projects or group projects. The length of the program can have a significant impact on the work of the coach. If the program is very short in duration, the group has more to do and learn in a shorter time, so the coach may take a more active role than in a longer program. Sponsors of projects can influence how a group and coach work together; participants who understand the action learning process behave differently in the group than those who don't.

Interventions

The learning coaches in the study confirmed that the skill sets, and interventions, of the process consultant were an important part of the repertoire of the learning coach. The coaches went on to emphasize, however, that while this skill set was needed it was not sufficient. While many of the interventions an coach might make, for example, providing feedback to individuals and the group, are the same as might be made by a process consultant, there is a separate set of interventions required for a learning coach to be effective. These interventions take the action learner to a 'deeper, learning level' as one coach stated. These interventions have a common thread of creating situations that would promote and support learning as shown in Table 2.

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This focus on learning makes sense when thought of in light of the Schools of Action Learning. The primary underlying assumption in the schools is how coaches think about the way that learning takes place through action learning. In order to enable participants to learn through scientific problem solving, simple reflection, or critical reflection, a learning coach needs to shape his/her practice to help bring learning about by choosing specific interventions for learning that fit their practice.

Table 2. Interventions that Create Situations for Learning

Situations	Action Learning Interventions
Specific interventions for learning	Questioning Reflection and Critical reflection Us of programmed knowledge and just-in-time learning Make work visible Create ways to help think differently Challenge the group
Creating an environment for learning	Emphasize confidentiality Work with an individual, but only within the group setting Create a supportive environment
Transfer skills needed for learning	Share role of 'expert' with group members Help participants give and receive help/feedback to each other Transfer learning Help rather than teach Say nothing and be invisible Transfer learning coach skills

Internallinfluences

The findings showed two main kinds of internal influences. First, their espoused practice, and for some their actual practice, demonstrated support for the conclusion that their beliefs about how learning takes place impacted their practice. Second, coaches described an internal view, or metaphor, that helped shape their practice as well.

When their words are looked at through the lens of the Theoretical Schools of Action Learning, twelve of nineteen of the coaches interviewed and/or observed "fit" into a particular theoretical school. These coaches also described an internal view—metaphor—that appeared to influence their practice. Other coaches in the study reflected one of the two internal influences or none at all. I inferred that this theoretical underpinning and metaphor were indications of a strong sense of self-awareness that lead to an informed choice about interventions, and a resulting consistency between beliefs and actions. Without this self-awareness, coaches could exhibit inconsistency in what they said they wanted to accomplish and what they actually did with a group.

Espoused schools. Table 3 illustrates the school the twelve coaches espoused.

Table 3. Espoused Schools and Learning Coaches

School	Scientific	Experiential	Critical Reflection	
Learning coach	Al	Murray	Pete	Lance
		Bruce	Ben	Karl
		Mary	Wendy	Hillary
			Steve	Linda

Beliefs about learning influenced the choices these coaches made about their interventions. As an example, the models that Al talked about using fit a scientific framework of problem solving and his description of when he usually made interventions portrayed a very structured approach.

> I tend to refer more than anything else to the basic problem solving model. And later related to the learning cycle model. But out of the problem solving model.
>
> The set itself will organize its own timetable for meetings and will stop the meeting and plan a review and I'll be invited to make an intervention. That's the usual thing. Together with summing up the end.

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In the Experiential school, Bruce, in response to a question about what models he used with groups, talked about an instrument and model similar to the Kolb model. As he later described his work with various groups, he discussed his use of reflection as a consistent intervention.

> It's not a term I'm familiar with but if it means that you and the group, you ask the group to pause and reflect, yes I certainly do that. Always at the end of a session. When they've finished. Let's spend some time reflecting. So I think inevitably at the end of a particular period of time.

These twelve coaches, identified in Table 4, had a clear view in their minds of a cycle of learning from experience. The models they espoused and their descriptions of their work also suggested that reflection in the cycle was crucial. Where the distinction came into play was in their beliefs about the kind of reflection that they felt was crucial for the kind of learning they believed should take place in action learning.

Metaphors for practice. Many practitioners and theorists discuss internal views—metaphors—in the literature that appear to help describe and shape their practice (Botham, 1993; Casey, 1991; O'Neil, 1996). Continuing with the concept of metaphors used by these other coaches, the following shows views that were expressed by coaches in the study. It appears these metaphors reflect a belief system that influences how coaches work. They described the metaphors of the Radical coach, the Consecrated/Religious, the Deep Diver, the Legitimizer, and the Mystery Maker.

The Radical learning coaches interpreted a significant part of their role as enabling participants to become empowered and use that empowerment to question and challenge authority. Their view of action learning fit a more radical mindset that of development within an approved paradigm. Carrying forward with illustrations of the coaches portrayed in the Theoretical School descriptions, Pete, in the Critical Reflection school, portrays himself as a Radical coach.

> For me what's different is the vision of what you're trying to bring about. You're not necessarily trying to bring about more effective organizations in the sense that might be described in a particular ideology or philosophy. ... And it's not necessarily understood that way by the people who run the organization or have the power. So it's—I think he's (Revans) much more subversive than process consultation.

The Consecrated/Religious coach has an underlying current of spirituality to their work and submerges or subordinates their needs to that of the group. Ben in the Critical Reflection school is an example.

> ... servants seeking service rather than 'I have something you can buy from me'. People who are making a living may be troubled by it. (Ben)

The Deep Divers described their work as going below the process level of the group to a 'deeper' learning level. They often saw themselves as being very intuitive in their work, so much of their thinking was below the surface.

The Legitimizers conceived of one of their main roles to be that of someone who is just there. By just being there, they are instrumental in creating an environment in which people are free to learn. Lance, in the Critical Reflection school, saw himself in this role.

> You legitimate the situation. To reflect and to do something which you usually don't do. ... You represent the whole idea of the program and just being there and seeing the group, and listening to the group is sometimes enough to get a lot of things happening which have never been able to happen.

The Mystery Maker was a role that was criticized by learning coaches in the study, although many admitted to struggling not to take on the role themselves. Mystery Makers create a mystery about what they do. Through this mystery, they bring the focus of the group on themselves and what they know. They 'steal' learning opportunities from the group.

> And that you've got to watch and that means more—not less—self control. And knowing that if you've got this potential in you to devise a bully pulpit and then come across as sort of a sage/guru figure. And every time you utter something of any significance, people sort of write it down. (Ben)

These findings demonstrate that a number of learning coaches' practices are based on both an explicit theoretical basis, as well as an internal, metaphorical view. Having explicit internal views of his/her practice appears to influence the potential of a match between a coach's espoused theory and theory-in-use.

Conclusions and Recommendations Regarding the Role of the Learning Coach

Based on some of the key findings of my research, we have a more insightful view of the role of the learning coach (Table 4 - Basics of a Learning Coach's Practice). In this table, I again look at some of the learning coaches discussed earlier in the findings. They represent examples of 12 learning coaches in my study who had a self-awareness of how they think learning takes place in action learning and had an internal metaphor that influenced

their practice. Both of these internal influences appeared to impact the kind of learning interventions the chose to make. These relationships provide us with one way to be able to look at the findings, so are not always true in every instance.

Table 4. Basics of a Learning Coach's Practice

	Radical	Consecrated/ Religious	Deep Diver	Legitimizer	Mystery Maker
Scientific			Al		
Experiential		Bruce			
Critical Reflection	Pete	Ben	Wendy	Lance	
					Chris

As an example, Ben appeared to be a strong Consecrated/Religious coach. He talked about "servants seeking service" and described one of his interventions with the phrase, "my intervention seemed to create some sort of atmosphere which almost helped heal the thing". When asked about developing a learning coach, he described a need for deeper, critical reflection in their reflections.

> Because it may not be able to move forward. It may be a way of moving deeper. I think that that is the thing that we are talking about rather than sort of moving forward.

This research is limited to the learning coaches interviewed and the programs observed. Similar studies need to be done with other coaches and in other programs. A focus on learning coaches new in their practice would help to find out whether they are guided by deep belief systems as well. Other methods, such as critical incidents or case studies, could provide greater depth of understanding of the practice of learning coaches. Since this research used qualitative methods to explore an area in which there was no documented research, additional work should be done to evaluate the validity of the data, findings and interpretation.

How this Research Contributes to New Knowledge in HRD

I would propose two reasons why these 12 coaches were consistent in their practice. First, they were among the most experienced in the research. The literature stressed the importance of personal characteristics like the willingness to learn from experience and one's mistakes and errors (McGill & Beatty, 1995; O'Neil & Marsick, 1994). The experience these coaches had may have provided a different window on the way they made judgements than I might have acquired had I studied only coaches who were early in their practice, but these findings confirmed the need for continued development. Despite their experience, in answer to a question about how they rated themselves as learning coaches, the 12 felt they needed to continuously learn. "I need to learn all the time and I think it's dangerous to be a person who has a routine of doing things."

Second, while the literature placed emphasis on the process of learning from experience in both action learning and the development of the coach (McGill & Beatty, 1995; Pedlar, 1991), my study also shows the importance to learning coaches of looking deeply and constantly at their own belief systems when taking the role of coach. Action learning can be more of an art than a science. As a result, it is important that learning coaches are prepared for their role in a way that will help them become very clear about their own belief systems, in addition to acquiring a repertoire of strategies for helping people learn from experience and practice in their selection and use.

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The Impact of the Dimensions of the Learning Organization on the Transfer of Tacit Knowledge Process and Performance Improvement

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The argument advanced in this study was that the process of within-firm transfer of tacit knowledge is influenced by an organizational environment fostered by the implementation of the seven dimensions of the learning organization (Watkins & Marsick, 1993). *It was also assumed that this process in turn mediates the impact of these dimensions on performance improvement.*

Keywords: Learning Organization, Transfer of Tacit Knowledge, Performance Improvement

Once largely ignored or discounted, knowledge capital is becoming an important component of economic, innovation, and management theories. Developed and developing nations are devoting more resources to knowledge creation, thus increasing the global pool of knowledge. Organizations and government are beginning to recognize the value of knowledge as a leveragable resource. Knowledge has become an important determinant of competitiveness and, by extension, of a nation's economic well-being (Pinelli et al., 1997).

According to leading futurists and business leaders, we have clearly entered the *knowledge era*; the new economy is a *knowledge economy*. Knowledge provides the key raw material for wealth creation and is the fountain of organizational and personal power (Marquardt, 1996). Every company depends increasingly on knowledge: patents, process, management skills, technologies, information about customers and suppliers, and old fashioned experience. This knowledge that exists in an organization can be used to create differential advantage. In other words, it is the sum of everything everybody in the company knows that gives the firm a competitive edge in the market place (Steward, 1991). Knowledge has become as important for organizations as financial resources, market position, technology, or any other company asset. Knowledge is seen as the main resource used in performing work in an organization (Marquardt, 1996).

The link between a firm's knowledge-base and its competitive advantage is recognized by scholars who hold a resource-based view of the firm (Barney, 1991; Rumelt, 1984; Wernerfelt, 1984), as well as by scholars who take an organizational learning perspective (Argyris & Schon, 1978; March, 1991; Senge, 1990).

What these distinct perspectives have in common is a focus on the knowledge-base of the firm described in terms of two critical dimensions (Polanyi, 1958; Nonaka, 1994). The first refers to its tacit nature, i.e. to unarticulated knowledge which is not amenable to simple formalization; while the latter pertains to its explicit dimension, which makes it codifiable in systematic ways.

The tacit component of firm knowledge-base makes its formalization difficult, reducing its ease of transfer across organizational boundaries. Thus, a number of resource -based scholars have argued that tacit knowledge is a valuable source of competitive advantage because it protects a firm against boundary leakages of firm-specific know-how assets (Shuen, 1993). In addition, tacit knowledge has a higher return generating potential when put to work within the boundaries of the firm (DeLeo, 1994).

Though sharing a common starting point, the resource-based view and the organizational learning perspective differ in terms of focus. Resource-based scholars focus on *impediments* to flow of tacit knowledge across boundaries, while organizational learning scholars focus on the conditions affecting *within firm mobilization* of tacit knowledge.

Research in these two areas also can be dichotomized on the basis of *content* versus *process*. Within the resource-based view of the firm, the focus is upon the *content* of knowledge--tacit as well as articulated--building upon *what* individuals and organizations know (e.g. "core competence" Prahalad & Hamel, 1990; and "dominant logic" Prahalad & Betties, 1986), to explain *why* tacit knowledge is not amenable to transfer across firm boundaries. On the other hand, the organizational learning perspective draws scholarly attention to *how* organizations foster the internal transfer of knowledge, shifting the focus to the *process* of knowledge transfer as a source of competitive advantage.

The empirical evidence provided so far by these emerging research perspectives shows that we know very

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little about how and to what extent firms are actually able to affect the transfer of tacit knowledge process within firm's boundaries, nor is there conclusive evidence available which suggests that internal transfer of tacit knowledge translates into performance improvement.

To fill this gap, the present study focused upon the process of within-firm transfer of tacit knowledge and developed some initial steps to move beyond a set of descriptive considerations to the rudimentary elements of a unified framework, one which captured the seven dimensions of the learning organization (Watkins & Marsick, 1993) as determinants of a learning organization environment that impacts the process of within-firm transfer of tacit knowledge.

The central premise on which the framework is based can be described in the following terms: the implementation of these seven dimensions, which are the changes that organizations must make to become learning organizations, foster a learning organization environment that impacts on the transfer of tacit knowledge process. It is also assumed that this process mediates the impact of the seven dimensions of the learning organization on performance improvement.

Theoretical Framework

The Learning Organization

Recent studies suggest that the key to success for an organization is embodied in its ability to implement and appropriate new technology (Willmann, 1991). However, adopting new technology does not ensure its successful integration and its optimum use. A company must be able to adjust to the demands and opportunities the new technology creates in order to realize its full advantage.

There is no simple formula for making the changes required to fully exploit a new technology. Indeed, every organization is unique and must identify and implement the changes required to enhance its own effectiveness. Argyris and Schon (1978) describe this process of identifying and implementing required changes as organizational learning. They suggest that an organization is, at its root, a cognitive enterprise and it learns and develops knowledge. The concept of a learning organization has evolved from the ideas of organizational learning, but it differs in that it includes not only the learning of the organization, but learning within the organization (Ulrich, Von Glinow & Jick, 1993). Learning organizations create intentional processes that accelerate the creation and utilization of knowledge across the system (Marsick & Watkins, 1997). Watkins and Marsick (1993, 1996) delineate the learning organization as one that captures, shares, and uses knowledge to change the way the organization responds to challenges. They describe seven dimensions or action imperatives necessary for organizations to progress toward becoming a learning organization: create continuous learning opportunities (*Continuous Learning*), promote dialogue and inquiry (*Dialogue and Inquiry*), promote collaboration and team learning (*Team Learning*), empower people toward a collective vision (*Empowerment*), establish systems to capture and share learning (*Embedded System*), connect the organization to its environment (*System Connection*), and provide strategic leadership for learning (*Provide Leadership*).

For the purpose of this study, a learning organization was defined as one that is characterized by continuous learning for continuous improvement, and by the capacity to transform itself. It is an organization in which people are aligned around a common vision, sense and interpret their changing environment, and generate knew knowledge that they use to create innovative products and services to meet customers needs (Marsick & Watkins, 1999).

Tacit Knowledge

People know more than they can tell. Personal knowledge is so thoroughly grounded in experience that it can not be express in its fullness. In the last 30 years, the term *tacit knowledge* has come to stand for this type of human knowledge--knowledge that is bound up in the activity and effort that produced it (Horvath, 1999).

The study of tacit knowledge has spanned several disciplines in the social sciences, and its provenance in an earlier, natural philosophy is extensive. Polanyi's (1973) philosophical treatise on personal knowledge, with its distinction between "focal knowledge" and "knowledge of subsidiaries," laid a theoretical foundation. Wagner and Sternberg (1986) define tacit knowledge as work-related practical knowledge learned informally on the job. Sternberg's investigations of tacit knowledge in the workplace helped to move tacit-knowledge research out of the laboratory and into the lexicon of applied social science (Sternberg et al., 1995).

Although not explicitly framed in terms of tacit knowledge, Argyris' studies of defensive reasoning established the reality and consequences of unspoken knowledge within organizations (Argyris, 1990). Nelson and Winter's evolutionary theory of economic growth (Nelson & Winter, 1982) incorporated Polanyi's work on tacit

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knowledge into a knowledge-based theory of the firm. Working in the same tradition, Kogut and Zander, (1992) showed how tacit knowledge affects the diffusion of innovation within firms and the appropriation of those innovations by competitors. By studying a range of technology-intensive businesses, Leonard-Barton (1995) showed how knowledge embedded in people, tools, and practices can develop within and sustain businesses. Nonaka and Takeuchi (1995) offered a model of organizational knowledge creation in which the socialization of individual tacit knowledge drives a reliable cycle of continuous innovation.

The transfer of tacit knowledge within organizations takes place through dissemination and documentation, which refer to the existence of general-purpose routines, which allow for the mobilization of knowledge beyond the specific tasks for which they have been designed (De Leo, 1994). A number of scholars (Brown & Duguid, 1991; Orr, 1990; Nonaka, 1994) have been focusing on the impact of dissemination modes, such as informal gatherings or information exchanges, which have the prerogative of diffusing tacit knowledge beyond the purpose for which they have been designed. In order to be effective, dissemination modes are coupled with a documentation effort (Orr, 1990; Nonaka, 1994), which allow individual members to capture the value of the ideas and methods which have been made available to them through dissemination mechanisms.

This fairly recent recognition of the importance of knowledge in contemporary society (Quinn, 1982; Nonaka, 1991, 1994; Senge, 1990) has raised many questions concerning how organizations transfer knowledge within firm boundaries (Itami, 1988; Kagono, 1994; Hedlund & Nonaka, 1993).

Conceptual Model

To better capture the relationship between the conditions influencing the process of tacit knowledge transfer and its impact on knowledge performance, a unified conceptual model was proposed; a framework within which different determinants were placed and the relationships between them analyzed. The adoption of a unified conceptual model enabled the researcher to sort out the contradictions that exist when different factors affecting the internal transfer of knowledge are considered collectively. Within the conceptual model shown in, the process of transfer of tacit knowledge is impacted or influenced by a learning organizational environment fostered by the implementation of the seven dimensions of the learning organization. This process is also assumed to have a direct impact or influence on performance improvement.

Significance of the Study

The growing interest developed around transfer of tacit knowledge and its impact on performance has not been matched yet by an equivalent effort to provide empirical evidence supporting the hypotheses at the basis of this research paradigm. In addition, most of the attention has been captured by impediments to mobilizing knowledge, with little concern about the processes and conditions which influence the effectiveness of tacit knowledge transfer within organizational boundaries. Most of the work accomplished to date has largely taken for granted the benefits of within firm transfer of tacit knowledge. Up to now, little effort has been put forward towards measuring the impact of tacit knowledge transfer on performance.

The descriptive richness and variety of the contributions have resulted in a list of considerations, focusing on distinctly unrelated factors, whose impact on the transfer of tacit knowledge has been assumed to be obvious. This study helped to fill this gap by generating empirical evidence relative to the process of within firm mobilization of tacit knowledge and its impact on performance improvement.

The present study contributes to the literature on the emergent knowledge-based view of the firm and knowledge management. The knowledge-based view focuses on the creation, integration, use and protection of knowledge by firms, thereby advancing understanding of the economic influence of knowledge on firms (Spender, 1996). While the effort to advance a knowledge-based view of the firm provides a theoretical contribution toward the management of knowledge, it too is plagued by existing difficulties in measuring transfer of tacit knowledge (Bloodgood, 1997). This study contributes to learning organization theory. The contribution of the seven dimensions of the learning organization to the creation of an environment conducive to the transfer of unarticulated knowledge will be examined. Implications will be drawn that might be adopted and used by practitioners or adult education researchers devoted to the study and/or implementation of learning organizations.

This study provides adult educators and human resource developers with empirical data on which learning organization characteristics most impact on the process of transfer of tacit knowledge, knowledge performance, and financial performance. This data could be used to create organizational systems, programs, and/or interventions aimed at the optimization of the effects of these dimensions or action imperatives in order to maximize the benefits of the transfer of tacit knowledge.

Methodology

For the purpose of this study, learning organization environment, tacit knowledge transfer and performance improvement were viewed as latent variables. A latent variable is a construct or hypothetical "entity." They are unobserved variables whose "reality" we assume or infer from observed variables or indicators (Kerlinger, 1986). Latent variables are not directly measurable, although they can be indirectly identified by a set of measurable indicators. The latent variable "Learning Organization Environment" was identified on the basis of seven indicators or dimensions: continuous learning, empowerment, team learning, embedded systems, systems connections, dialogue and inquiry, and providing leadership. The latent variable "Tacit Knowledge Transfer" was identified on the basis of two indicators: the level of knowledge dissemination and the extent of knowledge documentation. "Performance Improvement" was identified on the basis of two indicators: the levels of knowledge performance and financial performance. The seven dimensions of the learning organization, that is to say the degree to which each dimension has been addressed in the firm, were considered the independent variables which foster the necessary environment for transfer of tacit knowledge to occur.

Instrumentation

The initial data collection instrument for this study was a survey composed of six parts: items to measure the dimensions of the learning organization, items to measure dissemination and documentation of tacit knowledge, items to probe on organizational culture as an enabler of the process of transfer of tacit knowledge, items to probe tacit knowledge utilization, items to measure knowledge performance and items to gather demographic information.

The items to measure the dimensions of the learning organization and knowledge performance were those that appear in the Dimensions of the Learning Organization Questionnaire (Watkins & Marsick, 1997). The items to measure the level of tacit knowledge dissemination and the extent of tacit knowledge documentation were adapted from Kogut and Zander, 1993; De Leo, 1994; the Knowledge Management Assessment Tool (O'Dell & Grayson, 1998); and the Learning Organization Profile (Marquardt, 1996).

The complete data collection instrument was translated, adapted, and validated so it could be used with Spanish-speaking populations (Hernandez, 2000). Pilot testing of the translation was completed through administration of the instrument to members of the intended audience in order to determine content and predictive validity and if items elicit the same response regardless of translation. The "organizational culture," as an enabler of the process of transfer of tacit knowledge, and "tacit knowledge utilization" constructs were eliminated due to lack of divergent validity of the related items and due to the fact that they became irrelevant to the study as the study evolved.

Data Collection

A purposive, non-random sample was used. The target population was medium to large size private manufacturing corporations located in Bogotá, Colombia. To be included in the sample, a company would have to meet several criteria: it must be 1) private, 2) engaged in manufacturing operations, 3) medium to large size (number of employees was the only metric used to determine its size.), and 4) in operation at least 10 years.

Once the target population to be sampled was determined, the availability of a list of population elements from which a sample may be drawn was assessed. Worldwide or regional lists of manufacturers can be obtained from sources such as Bottin International. This source registers names and addresses of more than 300,000 firms in 100 countries, under 1,000 product classifications, by trade and by country.

In this particular study, two lists were used: a) The Latin American Companies Handbook, b) Latin America 25,000/Dun & Bradstreet's key business directory. Thirty companies enlisted in both lists were selected and then information about the company itself was drawn. Initial contact with the company was by e-mail to the executive director, explaining the study and requesting authorization to survey employees at different levels within his/her organization. Eight companies agreed to be part of the study. Data collection was done on site. The final copy of the instrument was distributed and administered directly by the researcher and a total of 906 valid responses were properly collected. The interest in Colombia stems from the fact that Colombia is a member of the most important trading block of the region: the Andean Pact. It has also a literate and dependable work force, a robust private sector, competent macro-economic management, political stability, and a good record of economic development (World Bank, 1999).

Data Analysis

The data collected was entered and analyzed using the LISREL 8.30 statistical package (Jöreskog & Sörbom, 1999). The unit of analysis was the aggregate data collected from private manufacturing corporations located in Bogotá, Colombia.

The research question, to what extent is the process of tacit knowledge transfer impacted or influenced by the seven dimensions of the learning organization and to what extent does this process in turn impact or influence performance improvement as depicted in the conceptual model? called for structural equation modeling (SEM). Various strategies may be employed in empirical applications of structural equation models: strictly confirmatory, model generation, and model comparison (Jöreskog, 1993). The model generation strategy was used in answering this question.

In the structural equation model shown in Figure 1, the latent construct LOE is identified by $\mathbf{0}_1$ on the basis of seven indicators: $\mathbf{Y}_1$ (CONTLEAR), $\mathbf{Y}_2$ (DIALINQU), $\mathbf{Y}_3$ (TEAMLEAR), $\mathbf{Y}_4$ (EMBEDDED), $\mathbf{Y}_5$ (EMPOWERM), $\mathbf{Y}_6$ (SYSCONNE), and $\mathbf{Y}_7$ (PROLEADE). The latent construct TTK is identified by $\mathbf{0}_2$ on the basis of two indicators: $\mathbf{Y}_8$ (DOCUMENT) and $\mathbf{Y}_9$ (DISSEMIN). The latent construct PI is identified by $\mathbf{0}_3$ on the basis of two indicators: $\mathbf{Y}_{10}$ (KPERFORM) and $\mathbf{Y}_{11}$ (FPERFORM). The structural relationship coefficients or directional 'influence' linkages are identified by the Greek letter "beta" ($\exists$). Namely, $\exists_{21}$ (influence of $\mathbf{0}_1$ on $\mathbf{0}_2$), $\exists_{32}$ (influence of $\mathbf{0}_2$ on $\mathbf{0}_3$), and although not implied conceptually $\exists_{31}$ (influence of $\mathbf{0}_1$ on $\mathbf{0}_3$).

The structural relationship coefficients, their significance and their magnitude provided an important criterion for model evaluation, termed the plausibility criterion, referring to a judgment made about the theoretical argument underlying the specified model (Saris & Sronkhorst, 1984). According to this criterion the decision regarding the correct model should also be based on the theoretical correctness of the model demonstrated by its structural relationships. There has to be some balance between the fit indices and the theoretical predictions regarding the relationships among research variables. The accuracy of the theoretical predictions was tested by the structural relationships in the model shown in Figure 1.

The factor loadings linking latent constructs to indicators are marked with the Greek letter "lambda" (8_i). Factor loadings for the indicators of the LOE are identified by: 8_1, 8_2, 8_3, 8_4, 8_5, 8_6, and 8_7; for the indicators of TKT are identified by 8_8 and 8_9; for the indicators of PI are identified by 8_{10} and 8_{11}. Statistical significance of factor loadings was judged on the following t-test criterion: $| t | \exists 2.00$ (Jöreskog & Sörbom, 1996: 103).

Results

Factor loadings were analyzed in order to assess statistical significance by their t-value ($| t | \exists 2.00 \Rightarrow$ statistically significant), and to ascertain their actual contributions to their respective latent construct. The maximum value they could have is 1 due to the fact that they are derived from a correlation matrix. Their value were relatively high and homogeneous with the exception of the factor loading for *financial performance* (FPERFORM).

In order to investigate if there was any direct structural relationship between LOE (η_1) and PI (η_3) an "influence" path ($\exists_{31}$) not implied in the original conceptual model was included (see Figure 1).
As can be seen in Table 2, the t-values for the structural coefficients β_{21} (20.34) and β_{32} (4.09) are greater than 2 and positive. Thus, these coefficients are conceptually attuned to the model and statistically significant. In the case of the coefficient β_{31} (-0.69), two observations were made. First, the inferences that could be drawn from its negative sign are conceptually inadmissible, and second $| t | < 2$, rendering this coefficient statistically insignificant. Therefore, it was unbiased to say that there was not a direct structural relationship between the LOE and PI, and that any indirect influence was mediated by TTK.

Goodness of fit statistics were analyzed and the model was refined until the Bentler-Bonett normed fit index (NFI), Bentler-Bonett non-normed fit index (NNFI), the comparative fit index (CFI), the relative fit index (RFI), the root mean square error of approximation (RMSA) indicated a 'very good' fit.

Conclusions

The results suggest that the impact of the dimensions of the learning organization on knowledge performance is mediated by the tacit knowledge transfer process. Linear structural relations analysis revealed the significance of the dimensions 'empowerment' and 'provide leadership' in the implementation of a learning organization. Financial performance was found to structurally load poorly on the latent variable PI (performance improvement), suggesting

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the need for a richer conceptualization of this factor or for the development and inclusion of other indicators of performance improvement.

The conceptual model presented here makes a valuable contribution to the effort to move Learning Organization research forward by incorporating transfer of tacit knowledge as one of the many possible mediators of the relationship between the dimensions of the learning organization and performance improvement. In addition, the findings are also expected to enhance and deepen the understanding of issues relating to LOE, TKT, and PI in organizations, which are useful to building theory in learning organization and knowledge management studies. Finally, it is hoped that this study will encourage or at least arouse interest in future research in similar areas, as more research on these subjects is necessary, especially in Latin America.

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Structural Equation Model

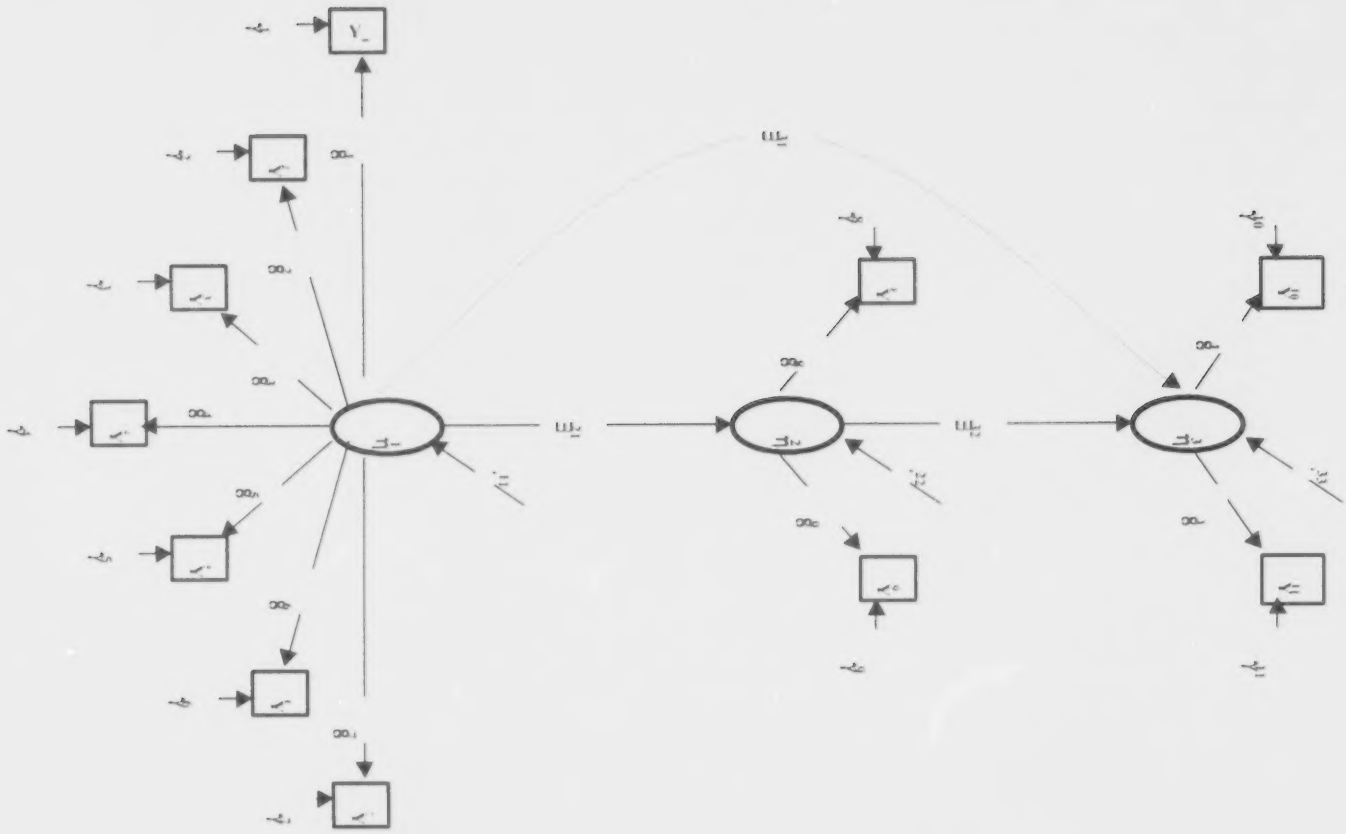

Figure 1. Structural Equation Model

The Relationship between Distance Coaching and the Transfer of Training

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This paper examined the relationship between distance coaching, a post-training strategy, and the transfer of training. More specifically, the paper studied the relationship between(1) distance coaching activities and transfer of training, (2) trainees' perceptions on coaching and transfer of training, and (3) distance coaching activities and trainees' perceptions on coaching.

Keywords: Transfer of Training, Distance Coaching

Global competition, technological advancement, and transformation of the traditional workplace are raising the pressures to improve performance in all types of organizational settings (Broad, 1997). Training is one of the most frequently employed human resource development (HRD) strategies to improve employee and organizational performance. However, a series of studies indicated that less than 15 percent of what people learn in training actually transfers to the job in a way that enhances performance (Baldwin & Ford, 1988; Broad & Newstrom, 1992).

Statement of the Problem

"The transfer of learned knowledge and skills from instructional programs remains a paramount concern for training researchers and practitioners" (Burke, 1997, p. 115). Since the desired outcome of training is performance improvement, no matter how good the training program is, it is inadequate if it does not produce significant new behaviors in the workplace (Leifer & Newstrom, 1980). It is recognized that the period after training seems to be the most crucial for facilitating transfer, several authors suggest that post-training interventions need to be explored (Baldwin & Ford, 1988). However, rigorous empirical investigation in this area remains scant (Burke, 1997).

Coaching is being increasingly exploited as a post-training strategy to enhance transfer (Olivero, Bane, & Kopelman, 1997). Coaching is an ongoing, follow-up process designed to help the trainees effectively apply knowledge and skills learned in training and overcome the barriers to improve performance (Lawson, 1997; Joyce & Showers, 1982). However, practitioners' assertions on coaching, "backed by scant research-need to be empirically tested: does coaching significantly enhance the application of trained skills?" (Miller, 1989, p.2). The development of Internet-based technologies has provided a solution to the problem of limited post-training contact to support transfer of training (Johnson, Wentling, & Wadsworth, 1999), but too little is known about using Internet effectively for educational purposes (Locatis & Weisberg, 1997). There is a need to study if coaching strategies can be employed effectively with the aid of communication technologies.

Research Question

This study was guided by the following research questions:

1. What is the relationship between coaching activities and the transfer of training?
2. What is the relationship between perceived coaching success and the transfer of training?
3. What is the relationship between coaching activities and perceived coaching success?
4. What communication technologies were used?

Theoretical Framework

Transfer of Training

Since 1980's, transfer of training theories emerged to highlight the interaction among the trainee

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characteristics and the work environment as the primary source of influence on transfer of training (Baldwin & Ford, 1988; Broad & Newstrom, 1992). Some trainee characteristics thought to affect transfer have been suggested in the literature: motivation, self-efficacy, and self-expectancy. Motivation to transfer can be described as "the trainees' desire to use the knowledge and skills mastered in the training program on the job" (Noe, 1986, p. 743). Self-efficacy refers to an individual's judgment on "how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). Expectancy theory proposes that people interact proactively with their environments based on their expectancies about the likelihood of the desired outcomes (Howard, 1989).

Work environment factors that affect transfer can be classified into three categories: organizational climate, social support, and task support. Organizational climate is generally defined as the perceived structures, values, systems, and qualities of a particular organization (Jones & James, 1979). The primary sources of social support are management/supervisors, work groups, and trainers. The existing literature does not place sufficient emphasis on trainers' roles in transfer following the training. Broad and Newstrom (1992) recognized the transfer responsibility of trainers has not always been recognized or fully accepted. Peters and O'Connor (1980) described task support as the availability of job-related information, tools, materials, and required services and help from others.

The traditional transfer strategies are not sufficient for achieving substantial positive transfer because they focus only on the period of acquisition of skills within a training process. The recent literature has focused primarily on the period after training as the crucial time to facilitate positive transfer (Michalak, 1981). Many post-training strategies have been suggested in the literature. The main purpose of these strategies is to build a facilitating transfer climate through forming a support group or buddy system to support transfer. Specifically, these strategies attempt to help trainees clarify the expectations and goals for transfer, provide feedback, provide social, emotional, and task support, and thus increase trainees' motivation and self-efficacy to transfer (Broad & Newstrom, 1992).

Coaching

Coaching practices are common in the field of athletics, management, and education. Rackham (1979) cited evidence that most skill training is wasted without management coaching to sustain the newly acquired skills. Michalak (1981) found that coaching activities by managers are essential to the transfer and application of skills learned in the classroom to the work situation. Joyce and Showers (1980) recommended that future research with an emphasis on the effects of coaching for application of training was needed.

The literature review revealed that there are not universal coaching activities and processes. Even though the actual appearances of coaching procedures are different, the main coaching activities can be drawn from these points: (1) building an non-threatening environment, (2) identifying and analyzing performance gap, (3) setting performance expectation and goals, (4) formulating action plan to accomplish that goal, (5) providing constructive feedback, (6) providing resources, (7) providing psychological and emotional support, (8) problem-solving, and (9) observing and monitoring the progress to achieve the goal (Lawson, 1997; Olivero et al., 1997).

In summary, the main components of coaching are quite similar to the techniques of transfer strategies. The literature also indicated that coaching activities could enhance trainees' self-efficacy, self-awareness, and motivation to transfer (Joyce et al., 1980). Therefore, coaching appears to be a process consisting of a set of transfer techniques.

Methodology

This study was explorative and correlational in nature. In order to measure research variables and assess their relationships, this study used both quantitative and qualitative approaches to collect and analyze data. "As many of the phenomena we examine are amorphous or difficult to measure directly, these phenomena will require multiple measures to adequately assess the issue" (Worthern, et al., 1997, p.342). The demands of rigor in this study were addressed through employing multiple measures to present multiple perspectives from multiple information sources.

Population and Sample

The sample for this study was drawn from trainees of an international training program on "training of trainers." The training program was sponsored by the World Bank, Asian Institute of Technology, and Department of Human Resource Education at the University of Illinois at Urbana-Champaign. A total of 28 participants representing 18 different countries from 5 continents attended this training program. All program participants met in

Bangkok in June of 1998 to attend a three-week training course. Six collaborative peer learning groups (PLG) were established with each group consisting of 5-6 participants and an assigned coach. PLGs were created based on participants' fields of subject-matter and areas of interest. Each participant was required to develop a detailed action plan for the next distance coaching phase.

Distance coaching was conducted during July-December of 1998 after the training session. The Internet-based distance learning methods and facilities were established to facilitate and support participants to practice their newly acquired knowledge and skills and collaborate with his or her "virtual" learning group and online coach. Internet-based technologies used included e-mails, asychronous WebBoard postings, and synchronous text chats.

The sample of this study was the 28 participants who completed the ITQ program. All 28 participants are senior or master trainers in their respective institutions and have training-related experiences. About 93% of them have at least bachelor degrees. Twenty-three of the 28 participants were from Asia, and the rest are from Europe, South America, and Africa. All the six coaches possess doctorate degrees, hold faculty positions in universities. Three of the coaches were from the United States, one from Thailand, one from Malaysia, and one from Australia.

Instrumentation

Four instruments were developed to collect data for this study: (1) Transfer Assessment Report (TAR), (2) Questionnaire on Transfer of Training, (3) Codes of Coaching Activities, and (4) Online Questionnaire on Perceived Coaching Success. These instruments were used to measure the three research variables: transfer of training, coaching activities, and perceived coaching success. The researcher decided to use Ford's et al.'s (1992) and Quinones et al.'s (1995) approaches to measure transfer of training in three dimensions because their model corresponded to what this researcher wanted to know about the transfer in this study. These three dimensions are: (a) breadth of transfer: the number of distinctive trained tasks are performed; (b) Frequency of Transfer: the number of times trained tasks are performed; and (c) difficulty of Transfer: complexity or difficulty level of performed tasks.

Each participant was given a guideline for writing the TARs. The purpose of the TAR was to guide the participants to reflect and document the tangible transfer outputs and evidences.

The questionnaire on transfer of training, complementing the TAR, measured three dimensions of transfer. First, the researcher developed a transfer list for each participant based on his or her TAR. This list specified what knowledge and skill element was transferred. Second, each participant was asked to rate how frequently he or she applied each knowledge/skill element on the transfer list on a scale from 1 to 5, with 1 being "never "and 5 being "always." Third, the participant was asked to rate the perceived difficulty level for each applied knowledge/skill element on the transfer list on a scale from 1 to 5: with 1 being "very easy" and 5 being "very difficult."

In order to analyze and count coaching activities from communication logs, ten predetermined codes on coaching activities were generated from review of literature by the researcher. The ten codes were: (1) defining performance expectations, (2) defining coaching topics, (3) scheduling coaching sessions, (4) building relationships with participants, (5) providing resources to participants, (6) providing feedback to participants, (7) facilitating problem-solving, (8) developing the action plan, (9) addressing participant concerns, and (10) monitoring progress.

The purpose of the online questionnaire on perceived coaching success was to obtain participants' perceptions of the distance coaching process. Through an extensive literature review, the researcher identified 10 major factors contributing to successful coaching: (1) preparation for coaching, (2) goal-setting, (3) interaction with coach (4) relationships with coach, (5) feedback from coach, (6) resources from coach, (7) concerns from coach, (8) encouragement from coach, (9) disciplining coaching process, and (10) monitoring progress. A 39-item questionnaire was developed to address these factors on a five-point Likert scale (from "strongly disagree" to "strongly agree").

Data Collection and Analysis

Due to incompleteness of data, one PLG with three participants was dropped for further study. Three types of communication logs reflecting the interaction between the coach and participants were chosen for content analysis in this study: group asynchronous WebBoard postings, e-mails between coaches and participants, and group synchronous text chats. These communication logs occurred during distance coaching phase from June-December of 1998 were captured electronically and printed. The transfer assessment reports of participants were obtained from the principal coach in April of 1999 after getting permission from the participants. The questionnaires on transfer of training were sent through e-mail attachments and the questionnaire on perceived coaching success was put in a Website. After multiple follow-ups, 20 out of 25 participants responded, giving a response rate of 80%.

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The sum of distinctive knowledge/skill elements on the transfer list created from the TAR was the measurement of breadth of transfer. The mean of ratings on frequency was the measurement of frequency of transfer. The mean of ratings on difficulty was the measurement of difficulty of transfer. To be able to combine the results on all three dimensions and measure the overall transfer, the result on each dimension was calculated z-score, and the sum of the three z-scores was the result of the overall transfer.

The communication logs occurred during distance coaching phase were subject to content analyses for coaching activities with the ten pre-determined codes. An adapted form of the Contact Summary Form suggested by Miles and Huberman (1994) was used in coding qualitative data. Sentences or paragraphs in communication messages were the primary units of coding. After coding, each code was assigned to each participant who was involved in this communication. Finally, the frequency of each code for each participant was summed.

Factor analysis and reliability analysis was conducted for instrument on perceived coaching success. Then the mean for each success factor was calculated. The average rating of the ten factors is the measurement of the overall coaching success. Bivariate correlations and stepwise multiple regressions were the primary methods used to assess the relationships among the three research variables: transfer of training, coaching activities, and perceived coaching success.

Results and Conclusions

Relationship Between Coaching Activities and Transfer of Training

The results of this study indicated that the following five of 10 coaching activities had significant relationships with the transfer of training:

1. Providing Resources. This study finds that the coaching activity *providing resources* had a significant positive relationship with breadth of transfer ($r=0.50$, $p<0.05$) and explained about 25% of variance in breadth of transfer. Throughout this study, *providing resources* included coaches' activities to give participants information, suggestions, materials, and express willingness to offer help and consultation. This finding is consistent with task support required for transfer in the transfer literature. Employees who do not have the resources (i.e., time, materials, information) to complete work assignments successfully become frustrated and are not productive during the work day (Peters & O'Connor, 1980), nor developing or practicing ways to apply new knowledge or skills (Kehrhahn, 1995). Often expressions of support have been found to be helpful as well (Stowell, 1987).

2. Building Relationships. It was also found in this study that coaching activity *building relationships* had a significant positive relationship with difficulty of transfer ($r=0.45$, $p<0.05$) and overall transfer ($r=0.46$, $p<0.05$) and explained 21% of the variance in the overall transfer. Activities of *building relationships* in this study included: exchanging good wishes, expressing interests and concerns about each other's family members, holidays, trips, job changes, and making jokes. Lawler (1973) suggested that affiliation or social interaction and identification with a social group is one of the extrinsic factors that inspire people in work organizations to perform. *Building relationships* may have enhanced participants' motivation to transfer through strengthening participants' association and interaction with their coaches.

3. Problem-Solving. This study reveals that coaching activity *problem-solving* had positive relationship with breadth of transfer ($r=0.50$, $p<0.05$) and negative relationship with difficulty of transfer ($r=-0.58$, $p<0.05$). In this study, communication technologies were the vehicles that allowed the delivery of coaching activities. Therefore, helping the participants to solve technical problems to encourage technology use and sustain enthusiasm to transfer became important. On the other hand, the coach and the participant spent time problem-solving might be indicative of more time participants encountered technical problems. Frequent encountering of technical hardship may block the transmission of coaching activities to facilitate transfer of training and lead to decreased participant motivation to try more challenging tasks.

4. Defining Expectations. Stepwise multiple regression revealed that the more the coaches expressed their *expectations* to expect participants to make progress toward work plans and preparation for the next evaluation phase, the less difficult tasks the participants tried. These activities which periodically communicated expectations were actually a kind of reminding and monitoring activity that held participants accountable for their progress. Research conducted over the past few years indicates that accountability can result in performance improvements (Schlenker, 1986). However, intensified information processing associated with accountability does not always guarantee improved performance. In fact, intensive information processing that induces high stress and anxiety lead

to reduction in performance (Schlenker & Leary, 1985). In transfer literature, outcome expectations of individuals are known to have an effect on their behaviors. For instance, people with low outcome expectations tend to procrastinate potentially difficult tasks, work less hard on them, easily abandon the tasks when encountering obstacles, and attribute low abilities instead of efforts to keeping them from succeeding (Bandura, 1977). Schlenker and Leary (1985) proposed that outcome expectations will be lowered when: (a)audiences are perceived to be more demanding, less supportive, and more evaluative, (b)situations are more demanding, difficult, evaluative, or ambiguous, and (c) an actor's self-perceived skills and resources to the task are lower.

In this study, the more the coaches expressed their expectations, the more the participants may have perceived their coaches to be demanding or evaluative. If this perception is accompanied by insufficient support from the coaches, constraints from participants' work environment, tough tasks, or low individual abilities, coaches' expectations may discourage participants to try more difficult tasks.

5. Scheduling Coaching. Stepwise multiple regression revealed that, as a predictor, coaching activity *scheduling coaching* was negatively associated with breadth of transfer and with difficulty of transfer. *Scheduling coaching* in this study were coaches and participants' activities regarding the scheduling of synchronous chats. This may imply that some coaches had difficulties to organize the chats with their groups due to low group cohesion. This may also mean some coaches were more democratic in scheduling coaching and took extra effort to have everyone's input in scheduling. Therefore, effective ways to schedule coaching with groups of people from different countries with different states of technology and time zones needed to be given more consideration.

Relationship Between Perceived Coaching Success and Transfer of Training

This study measured participants' perceptions on ten factors that are critical for the success of coaching, the results indicated that five of the ten factors had significant relationships with the transfer of training.

1. Preparation for Coaching. This study concludes that the participants' perceptions of how well the coach *prepared for coaching* had a significant positive relationship with breadth of transfer ($r=0.51$, $p<0.05$) and with overall transfer ($r=0.68$, $p<0.05$), and explained about 26% variance in breadth of transfer and about 46% of variance in overall transfer. Perceived *preparation for coaching* in this study measured the extent to which the participants perceived that the coach prepared well for the coaching, carefully reviewed the documents that have been submitted, and knew the issues for coaching. This finding confirms Stowell's (1987) study on effective coaching: one of the most striking findings from their interviews with coaches and employees was the amount of emphasis given to planning and preparation prior to the coaching discussion. Employees appeared to easily pick up the level of preparation of their coaches. Therefore, this finding suggests that a well-prepared, well-structured, and purposeful coaching have importance for transfer of training.

2. Interaction with Coach. This study also reveals that perceived *interaction with coach* was positively related to frequency of transfer ($r=0.72$, $p<0.01$) and overall transfer ($r=0.50$, $p<0.05$). Perceived *interaction with coach* explained about 52% of the variance in frequency of transfer. Perceived *interaction with coach* in this study measured to what extent both coaches and participants brought their experiences, expertise, ideas, and needs to the coaching process. This finding is consistent with Huczynski and Lewis's (1980) description of a supportive supervisor required in a favorable environment for transfer. This supervisor should be one who is open to suggestions, listens to new ideas, and allows use of new methods. This finding suggests that if participants are given more opportunities to have their contributions and inputs to the coaching process, they may have higher transfer performance.

3. Relationships with Coach. A significant positive relationship between perceived *relationships with coach* and frequency of transfer was also found in this study ($r=0.66$, $p<0.01$). Perceived *relationships with coach* in this study measured to what extent the coach and the participant had mutual respect, trust, and feeling of freedom to express themselves. This finding confirms the literature which shows that trainees attempting transfer need emotional support that make them feel secure, respected, loved, and admired (Jacobson, 1986). Tracy, Tannenbaum, and Kavanaugh (1995) pointed out social interactions and work relationships is one component of continuous learning environment in which transfer of training will be enhanced.

4. Encouragement from Coach. This study indicates that there was a significant, positive relationship between the perceived *encouragement from coach* and overall transfer ($r=0.55$, $p<0.05$). Perceived *encouragement from coach* measured to what extent the participant felt that the coach was optimistic about the participant's abilities to succeed and recognized participant's achievement and success. The positive correlation is consistent with the literature highlighting that trainees' perceptions of supervisory and co-worker encouragement is a component of

social support constituting environment favorability (Kehrhahn, 1995). Noe (1986) suggested that intention to transfer will be positively affected if interventions enhance confidence in learners' abilities to use the new skills.

5. Monitoring Progress. Stepwise multiple regression reveals that as a predictor factor, perceived *monitoring progress* was negatively associated with the frequency of transfer. In this study, *monitoring progress* measured to what extent the coach maintained contact with the participants regarding the progress made toward planned activities. *Monitoring progress* was also a kind of activity to hold participants accountable for their work plans and the next phase for evaluations. This may lead to lower outcome expectations due to associated stress and anxiety, and thus decreased performance level.

Relationship Between Coaching Activities and Perceived Coaching Success

Coaching activities *defining expectations* and *defining coaching topics* had significant, negative relationships with a series of perceptions of participants about the coach and the coaching including: (a) *preparation for coaching*, (b) *concerns from coach*, (c) *encouragement from coach*, and (d) the overall coaching success. Review of communication logs indicated that *defining coaching topics* were primarily coaches' activities to set the agenda for synchronous chats. Generally, there were two themes within the agenda: reporting the progress of the work plan and preparing for the evaluation meeting at Bangkok. Therefore, *defining coaching topics*, similar to *defining expectations*, was also a type of "evaluative" activity, which may be interpreted by participants to be more demanding, less considerate, and less encouraging. This finding is consistent with the effect of accountability and low outcome expectations which were discussed in the section on "Relationship Between Coaching Activities and Transfer of Training." Similarly, coaching activities *defining coaching topics*, *monitoring progress*, together with *scheduling coaching*, were each significantly, negatively related to perceived *feedback from coach*. These evaluative, demanding activities may place pressures on participants instead of providing supportive feedback for future improvements.

The coaching activity *addressing participants concerns* had significant, positive relationship with perceived *relationships with the coach*. *Addressing concerns* in this study were coaching activities such as addressing participants' concerns and difficulties in a sympathetic and understanding way. In Ennis et al's (1989) study on characteristics of an effective learning environment, they described communication in effective learning environments as communications that are "empathetic" and "concerned." These types of communications help establish the atmosphere of consideration, which is an important component of social support (Noe, 1986). This finding suggests that showing considerations to participants in words is one way for them to perceive a better relationship with the coach.

Use of Communication Technologies

This study revealed that synchronous chats carried the majority of coaching activities (about 40%), while e-mails carried about 31% and asynchronous WebBoard postings carried about 29%. *Providing resources*, *building relationships*, and *scheduling coaching* were the major types of coaching activities (23%, 21%, and 15%, respectively). Synchronous chats carried the majority of coaching activities of *building relationships* (56%) and *providing resources* (52%). This suggests that participants may prefer immediate interactions with the coach toward building relationships and seeking resources.

Conclusion

This study concluded that both actual coaching activities that occurred and participants' perceptions about the coaching had significant relationships with the transfer of training. This study added support to the existing body of knowledge that providing social support and task support to trainees can improve transfer of training. The following supportive coaching activities and skills can facilitate transfer of training: building relationships with training participants, providing resources, giving encouragement, communicating interactively, solving problems, and well preparing for coaching. These activities can help participants be more active in seeking the coach's support in various forms and enhance participants' motivation to transfer. Some evaluative or demanding coaching activities and skills should be used with caution such as monitoring progress and defining coaches' expectations. These activities intended for improving performance may induce pressures and anxieties and thus lower performance.

It was thought that coaching activity *providing feedback* to participants should have an important effect on transfer of training though this study did not confirm this assumption. The effect of feedback is influenced by

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situational and personal factors such as: (a) attributes of the supervisors, (b) attributes of individuals receiving the feedback, and (c) the message itself (Ashford & Cummings, 1983). In this study, since the feedback about transfer effort was given by external HRD professionals, the effect of feedback on transfer of training may be not as powerful as the feedback given by participants' immediate supervisors or managers.

Implications

Since the components of online coaching were identified from non-distance coaching literature, the researcher of this study suggests that the implications of this study can be generalized to coaching in non-distance settings. However, this study has a small sample size, which may limit its capacity to be generalized to a large group of people. It will be beneficial to conduct a similar research with a larger sample size and with different types of organizations in order to create the results that can be generalized to other settings.

Implications for HRD Practitioners

The existing literature focuses on sources of social and task support from the trainees' work environment, especially trainees' managers, supervisors, and co-workers. The findings generated from this research evidenced that the social and task support provided by HRD professionals could also enhance transfer of training. These support activities may be important for trainees' transfer attempt especially in the absence of organizational and management support. Therefore, HRD practitioners should take a more active role in facilitating transfer of training through coaching during the post-training period. Building a post-training support system is important to be incorporated as a component of the training program.

Based on the results related to the effectiveness of each coaching activity and perception on coaching, HRD practitioners should equip themselves with supportive coaching skills and carefully examine the effects of those evaluative coaching activities in an ongoing effort to improve individual performance.

HRD practitioners should be able to communicate with business managers that they can help trainees transfer what they learned into on-the-job performance. HRD practitioners can teach and train corporate management on how to better build a supportive environment for transfer of training and effective coaching, and how to act as good coaches to help trainees transfer their training. HRD practitioners can also build a joint coaching relationship with trainees' managers and practice the most effective ways to share the coaching activities.

HRD practitioners should continue to explore the potentials of technologies for supporting transfer of training.

Implications for HRD Educators

HRD educators should revise the curriculum to incorporate transfer of training as an important component. HRD educators should prepare students with the understandings, capacities, and techniques necessary to develop and implement post-training interventions to enhance transfer. HRD educators should educate students to take a comprehensive view on transfer of training and consider three factors: work environment, trainee characteristics, and instructional design.

Implications for HRD Researchers

HRD researchers should continuously explore the post-training interventions such as coaching strategies that may be employed by HRD professionals to facilitate transfer of training.

HRD researchers should examine the influences of trainees' work environment and trainee characteristics on the effectiveness of coaching. Numerous transfer studies have confirmed that work environment and trainee characteristics factors have influences on transfer of training. It might be beneficial to examine if coaching can cope with or neutralize some of the negative environment factors, which environment factors can limit the effectiveness of coaching, and how to take trainee characteristics into account wisely when implementing coaching strategies.

HRD researchers should also compare the effectiveness of face-to-face coaching with that of distance coaching. The use of technologies in training and education settings is still a new phenomenon and the impact of technologies on communication requires further study. A comparative study between face-to-face coaching and distance coaching may lead to an insightful understanding on the advantages and disadvantages of distance coaching, so that HRD professionals can make informed decisions when implementing distance coaching.

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